

Notice of Allowability

Application No.

10/057,279

Examiner

Lamson D Nguyen

Applicant(s)

MATSUO ET AL.

Art Unit

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-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-17, 20-30, 33-35, 46, 47 and 50-52.
3. ☒ The drawings filed on 01/25/02 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 10/057,279 & 5/7/02
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Garrett Donley on 06/17/04.

The application has been amended as follows:

- Cancelled claims 18-19, 31-32, 36-45, 48-49, and 53-55

The following is an examiner's statement of reasons for allowance:

- The primary reason for allowance for claims 1-10, 24-25, 27, 30, 35, 46, and 52 is the limitations of a multiple-lines inkjet printhead, each line head comprising a pressure chamber block including a common liquid chamber for storing ink, a plurality of pressure chambers communicating with the common liquid chamber, a plurality of actuator blocks each including a piezoelectric element, a first electrode and a second electrode for applying a voltage across the piezoelectric element, and a vibration plate, the actuator blocks being arranged on one surface of the pressure chamber block so that more than one of the pressure chambers of the pressure chamber block are covered by the vibration plate. It is these limitations, either single or in combination, that are not found, taught, or suggested by prior art.

- The primary reason for allowance for claims 11-17 and 47 is the limitations of an inkjet printhead comprising a pressure chamber block including a common liquid chamber for storing ink, a plurality of pressure chambers communicating with the common liquid chamber; the pressure chambers of the pressure chamber block form a plurality of pressure chamber rows arranged in a head longitudinal direction, each pressure chamber row including more than one of the pressure chambers that are arranged in a direction inclined from the head longitudinal direction, and each of the actuator block is formed in a parallelogram shape having a side that is parallel to a row direction of each pressure chamber row. It is these limitations, either single or in combination, that are not found, taught, or suggested by prior art.
- The primary reason for allowance for claims 20-23, 26, 28, 29, 33-34, 50, and 51 is the limitations of an inkjet printhead comprising a pressure chamber block including a common liquid chamber for storing ink, a plurality of pressure chambers communicating with the common liquid chamber; the pressure chambers of the pressure chamber block form a plurality of pressure chamber rows arranged in a head longitudinal direction and in a scanning direction, each pressure chamber row including more than one of the pressure chambers arranged in a direction that is inclined from the head longitudinal direction, and at least one pressure chamber of a pressure chamber row is located along a same line in the scanning direction with at

least one pressure chamber of another pressure chamber row, and nozzles that correspond to the pressure chambers located along the same line in the scanning direction are also located along a same line in the scanning direction. It is these limitations, either single or in combination, that are not found, taught, or suggested by prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


* Takeuchi et al. (5,617,127) teach an inkjet head comprising an actuator having a pressure chamber or chambers defined by an integral ceramic substrate.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lamson D Nguyen whose telephone number is 571-272-2259. The examiner can normally be reached on 8-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LAMSON NGUYEN
PRIMARY EXAMINER
26/17/04